

REMARKS

Claim 3 has been cancelled. Thus, claims 1, 2, 5, 6, 8-13, 15-18, and 31-58 are presently pending in this application. Claims 1, 31, 37, and 50 are independent claims.

Claim Rejections Under 35 U.S.C. § 112

Claims 43-44 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. This rejection is respectfully traversed.

The Office Action asserts that there is insufficient antecedent basis in claim 43. Claim 43 has been amended to recite “wherein the recording device records an information indicating whether the subject is imaged in the normal luminance mode or imaged in the wide luminance range imaging mode”. Consequently, withdrawal of the rejection is respectfully requested.

Claim Rejections Under 35 U.S.C. § 103(a) – McCarthy, Tsai

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy in view of Tsai (U.S. Patent No. 5,309,243; hereinafter “Tsai”). This rejection is respectfully traversed.

Claim 3 has been cancelled, making its rejection moot.

Claim Rejections Under 35 U.S.C. § 102(e)

Claims 1-2, 31, 33, 39-42 and 47 stand rejected under 35 U.S.C. § 102(e) as being anticipated by McCarthy (U.S. Patent No. 6,335,983; hereinafter “McCarthy”). This rejection is respectfully traversed.

Independent claims 1 and 31 have been amended to incorporate the claimed features of claim 3. In view of the claims amendments, it is respectfully submitted that the rejection of independent claims 1 and 31 under 35 USC 102(e) are rendered moot. As claims 2, 33, 39-42 and 47 are dependent on independent claims 1 and 31 respectively, it is further respectfully submitted that the rejections of claims 2, 33, 39-42 and 47 are also rendered moot.

Furthermore, Applicant respectfully submitted that McCarthy and Tsai when taken alone or in combination, does not teach or suggest the present invention as recited in amended independent claims 1 and 31.

McCarthy describes a method for representing an extended color gamut digital image in a limited color gamut color space. Specifically, the color values of the extended color gamut digital image are adjusted using color adjustment function to produce limited color gamut digital image. The information describing the color adjustment function is stored together with the limited color gamut digital image. The associated information and the limited color gamut digital image are adapted to produce a reconstructed extended color gamut digital image.

However, McCarthy neither teaches nor suggests an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing as in the present invention. The present invention provides an imaging device which images a subject so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing. Specifically, the imaging luminance range wider than a reproducing luminance range is acquired by imaging the subject with an exposure value that is lower than a normal exposure value for a desired reproducing. For example, if an object is imaged with lower exposure value, more information on luminance range can be obtained compared to the luminance range obtained with an adequate exposure value. Nowhere in McCarthy is there mention or suggestion of such features.

Thus, McCarthy does not teach or suggest “an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing” as recited in independent claim 1 of the present invention.

Tsai describes a method and apparatus for extending the dynamic range of an electronic imaging system. Multiple images captured at different exposure levels are stored. The pixels from the image captured at a normal exposure are then compared to preselected exposure ranges to determine if the pixel is underexposed or overexposed. The pixel is then replaced according to the determination. However, Tsai is not concerned with acquiring imaging luminance range wider than a reproducing luminance range. Thus, similarly to McCarthy, Tsai neither teaches nor suggests “an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing” as recited in independent claim 1 of the present invention.

Applicant respectfully submits that there is also no reason or motivation to combine McCarthy and Tsai. McCarthy describes a method of reconstructing extended color gamut digital image using stored color adjustment function and the limited color gamut digital image. Tsai describes a method of capturing images with different exposure levels and replacing pixels of an image which are underexposed or overexposed. These references are responsive to different problems and thus it is respectfully submitted that the combination of these references to produce present claimed invention would not be obvious. McCarthy involves “permitting the storage of images in a color space having a limited color gamut, while retaining the extended color gamut information” (column 3, lines 10-12). Tsai, on the other hand, involves providing “the use of lower cost, lower resolution devices to digitize and process the analog image signal generated by an electronic image sensor” (column 1, lines 31-33).

Even if there was a motivation to combine these two references, the combination of the method of McCarthy and the method of Tsai would not produce the present claimed invention. Instead, the method resulting from the above combination would yield a method for reconstructing extended color gamut digital image using stored color adjustment function and replacing pixels of an image that are underexposed or overexposed. This is wholly unlike the present claimed invention and provides no common problem recognition with the present claimed invention. The present invention provides an imaging device which images a subject so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing. Specifically, the imaging luminance range wider than a reproducing luminance range is acquired by imaging the subject with an exposure value that is lower than a normal exposure value for a desired reproducing. Thus, the combination of McCarthy and Tsai neither discloses nor suggests “an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing” as recited in independent claim 1 of the present invention.

Independent claim 31 recites, in part “an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire first imaged data with an acquiring luminance range wider than a reproducing luminance range on at least one of displaying and printing”. It is demonstrated above that McCarthy cannot teach or suggest at least this feature. Thus, independent claim 31 is distinguishable from McCarthy for at least the reasons discussed above with respect to independent claim 1.

There are other distinctions as well. Independent claim 31 recites, in part, “a reading device which reads the first image data with the acquiring luminance range and reads the luminance range information; a signal processing device which produces, from the first image data with the recording luminance range, second image data with a luminance range required for reproducing according to the luminance range information”. The Examiner alleges that

McCarthy, in column 8, lines 46-53, teaches the reading device and the signal processing device as in the present invention. Applicants respectfully disagree. Contrary to the assertion, the cited passage of McCarthy merely describes some examples of using the reconstructed extended color gamut digital images. Unlike the present invention, McCarthy is concerned with storing information describing color adjustment function and the limited color gamut digital image. Therefore, these are the only information and data would be read out to reconstruct the extended color gamut digital image. Nowhere in McCarthy is there mention or suggestion of “a reading device which reads the first image data with the acquiring luminance range and reads the luminance range information” as recited in independent claim 31 of the present invention.

In view of the above remarks regarding independent claims 1 and 31 it is respectfully submitted independent claims 1 and 31 are not made unpatentable by McCarthy and Tsai when taken alone or in combination. As claims 2, 33, 39-42 and 47 are dependent on independent claims 1 and 31 respectively, it is respectfully submitted that claims 2, 33, 39-42 and 47 are patentable for the same reasons as discussed above in regards to independent claims 1 and 31.

Claim Rejections Under 35 U.S.C. § 103(a) – McCarthy, Kim

Claims 5, 8, 10, 11, 34, and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy in view of Kim (U.S. Patent No. 5,710,594; hereinafter “Kim”).

It is noted that claims 5, 8, 10, 11, 34, and 35 depend from independent claim 1 directly or indirectly, and it is demonstrated above that claim 1 is distinguishable over McCarthy and Tsai when taken alone or in combination. Kim does not remedy at least the above noted deficiencies of McCarthy and Tsai.

Kim describes an apparatus for gamma-correcting image data. A characteristic corrector inputs image data values and outputs gamma-corrected image data values corresponding to the image data values according to stored gamma correction information. However, similarly to

McCarthy and Tsai, Kim does not teach or suggest “an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing” as recited in the independent claim 1 of the present invention.

In view of the above amendments and remarks with respect to independent claim 1, it is respectfully submitted that independent claim 1 is not made unpatentable by McCarthy, Tsai and Kim when taken alone or in combination. As claims 5, 8, 10, 11 and 34-35 are dependent on independent claim 1, it is respectfully submitted that, in addition to the above remarks, these claims are also patentable for the same reasons discussed above with respect to independent claim 1. It is thus further respectfully submitted that this rejection should be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a) – McCarthy, Kim, Yamagami

Claims 6, 9, and 12 rejected stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy in view of Kim and further in view of Yamagami (U.S. Patent No. 6,522,830; hereinafter “Yamagami”). This rejection is respectfully traversed.

It is noted that claims 6, 9, and 12 depend from independent claim 1 directly or indirectly, and it is demonstrated above that claim 1 is distinguishable over McCarthy, Tsai and Kim. Yamagami does not remedy at least the above noted deficiencies of McCarthy, Tsai and Kim.

Yamagami describes a recording and replaying apparatus which performs character recognition of an image taken by an apparatus, such as a digital electronic still camera, by executing a character recognition software. However, similarly to McCarthy, Tsai and Kim, Yamagami does not teach or suggest “an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing

luminance range on at least one of displaying and printing” as recited in independent claim 1 of the present invention.

In view of the above amendments and remarks with respect to independent claim 1, it is respectfully submitted that independent claim 1 is not made unpatentable by McCarthy, Tsai, Kim, and Yamagami when taken alone or in combination. As claims 6, 9, and 12 are dependent on independent claim 1, it is respectfully submitted that, in addition to the above remarks, these claims are also patentable for the same reasons discussed above with respect to independent claim 1. It is thus further respectfully submitted that this rejection should be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a) – McCarthy, Bayer

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy in view of Bayer (U.S. Patent No. 3,971,065; hereinafter “Bayer”). This rejection is respectfully traversed.

It is noted that claim 13 depends from independent claim 1 and it is demonstrated above that claim 1 is distinguishable over McCarthy and Tsai. Bayer does not remedy at least the above noted deficiencies of McCarthy and Tsai.

Bayer describes a sensing array for color imaging including individual luminance-sensitive and chrominance-sensitive elements that are intermixed and each type of element occurs in a repeated pattern with luminance elements dominating the array. However, similarly to McCarthy and Tsai, Bayer does not teach or suggest “an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing” as recited in independent claim 1 of the present invention.

In view of the above remarks with respect to independent claim 1, it is respectfully submitted that independent claim 1 is not made unpatentable by McCarthy, Tsai and Bayer when taken alone or in combination. As claim 13 is dependent on independent claim 1, it is respectfully submitted that, in addition to the above remarks, the claim is also patentable for the same reasons discussed above with respect to independent claim 1. It is thus further respectfully submitted that this rejection should be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a) – McCarthy, Horiuchi

Claims 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy in view of Horiuchi (U.S. Patent No. 6,8801,248; hereinafter “Horiuchi”). This rejection is respectfully traversed.

It is noted that claims 15 and 16 depend from independent claim 1 directly or indirectly, and it is demonstrated above that claim 1 is distinguishable over McCarthy and Tsai. Horiuchi does not remedy at least the above noted deficiencies of McCarthy and Tsai.

Horiuchi describes an image pick-up device for producing a synthesized image signal having a wide dynamic range by partially combining or exchanging a plurality of images picked-up with different exposure amounts in a mosaic fashion. However, similarly to McCarthy and Tsai, Horiuchi does not teach or suggest “an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing” as recited in independent claim 1 of the present invention.

In view of the above remarks with respect to independent claim 1, it is respectfully submitted that independent claim 1 is not made unpatentable by McCarthy, Tsai and Horiuchi when taken alone or in combination. As claims 15 and 16 are dependent on independent claim 1, it is respectfully submitted that, in addition to the above remarks, these claims are also

patentable for the same reasons discussed above with respect to independent claim 1. It is thus further respectfully submitted that this rejection should be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a) – McCarthy, Nakagawa

Claims 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy in view of Nakagawa et al. (U.S. Patent No. 6,738,092; hereinafter “Nakagawa”). This rejection is respectfully traversed.

It is noted that claims 17 and 18 depend from independent claim 1 directly or indirectly, and it is demonstrated above that claim 1 is distinguishable over McCarthy and Tsai. Nakagawa does not remedy at least the above noted deficiencies of McCarthy and Tsai.

Nakagawa describes a camera device whereby a still picture photographed without data transfer to a personal computer can be viewed on the personal computer. The light signals of the object from the optical system of the camera are converted by an imaging device, A/D converter, data compression means and data conversion means into pre-set data that permits recording on a floppy disc. However, similarly to McCarthy and Tsai, Nakagawa does not teach or suggest “an imaging device which images a subject with an exposure value that is lower than a normal exposure value for a desired reproducing so as to acquire image data with an acquiring imaging luminance range wider than a reproducing luminance range on at least one of displaying and printing” as recited in independent claim 1 of the present invention.

In view of the above remarks with respect to independent claim 1, it is respectfully submitted that independent claim 1 is not made unpatentable by McCarthy, Tsai and Nakagawa when taken alone or in combination. As claims 17 and 18 are dependent on independent claim 1, it is respectfully submitted that, in addition to the above remarks, these claims are also patentable for the same reasons discussed above with respect to independent claim 1. It is thus further respectfully submitted that this rejection should be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a) – McCarthy, Official Notice

Claims 32, 48, and 49 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy. This rejection is respectfully traversed.

In view of the above remarks with respect to independent claims 1 and 31, it is respectfully submitted that the combination of McCarthy and Tsai does not anticipate independent claims 1 and 31 as recited. As claims 32, 48, and 49 are dependent on independent claims 1 and 31 respectively, it is respectfully submitted that, these claims are also patentable for the same reasons discussed above with respect to independent claims 1 and 31.

It should be noted that claims 32, 48, and 49 are also distinguishable on their own merit. Regarding claim 32, the Office Action rightly stated that McCarthy fails to disclose the recording of an information indicating maximum reflectance set in the camera. However, the Office Action simply took official notice that the concept of recording of an information indicating maximum reflectance set in the camera is notoriously well known. Applicants traverse the official notice, and respectfully request that a proper prior art be cited to support this notion. Applicants respectfully request that the Examiner provide support for the assertion and explain how it may be combined with McCarthy and Tsai.

Regarding claims 48 and 49, the Office Action rightly stated that McCarthy fails to disclose the recording device records information specifying the exposure value used to image the subject, and wherein the signal processing device produces the second image data also based on the exposure value and that the gradation conversion function used by the imaging device is based on the exposure value used to subject the image. The Examiner again takes official notice that using image tags/meta-data to store exposure values are notoriously well known and expected in the art.

First, the official notice taken by the Examiner does not remedy the deficiencies of McCarthy. Specifically, the combination of McCarthy and the use of image tags/meta-data to

store exposure values still does not teach or suggest the features of “wherein the recording device records information specifying the exposure value used to image the subject, and wherein the signal processing device produces the second image data also based on the exposure value” and “wherein the gradation conversion function used by the imaging device is based on the exposure value used to subject the image” as recited in claims 48 and 49 respectively.

While the rejection has been rendered moot, Applicants traverse the official notice nonetheless. Applicants respectfully request that a proper prior art be cited to support the Examiner’s allegation that the concept of using image tags/meta-data to store exposure values is notoriously well known and properly demonstrate that the teaching of the prior art, if found, is combinable and remedies the deficiencies of McCarthy and Tsai.

Claim Rejections Under 35 U.S.C. § 103(a) – McCarthy, Horiuchi, Yamagami

Claim 36 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McCarthy in view of Horiuchi and further in view of Yamagami. This rejection is respectfully traversed.

Claim 36 is dependent on independent claim 1 and is considered patentable for the reasons presented above with respect to independent claim 1. Claim 36 is also considered patentable because as it is demonstrated above that McCarthy, Tsai, Horiuchi, and Yamagami, when taken alone or in combination, fails to provide disclosure of the present claimed invention.

Claim Rejections Under 35 U.S.C. § 103(a) – Horiuchi, Yamagami

Claims 37 and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Horiuchi in view of Yamagami. This rejection is respectfully traversed.

Horiuchi describes an image pick-up device for producing a synthesized image signal having a wide dynamic range by partially combining or exchanging a plurality of images picked-

up with different exposure amounts in a mosaic fashion. A synthetic unsuitable portion is detected on the basis of a comparison of a plurality of image signals picked-up with different exposure amounts. The pixel signal of the detected synthetic unsuitable portion is corrected. However, Horiuchi does not teach or suggest “wherein the imaging device having a wide luminance range imaging mode images the subject with an exposure value that is lower than a normal exposure value for a desired reproducing” as recited in independent claim 37 of the present invention.

Yamagami describes a recording and replaying apparatus which performs character recognition of an image taken by an apparatus, such as a digital electronic still camera, by executing a character recognition software. However, similarly to Horiuchi, Yamagami does not teach nor suggest “wherein the imaging device having a wide luminance range imaging mode images the subject with an exposure value that is lower than a normal exposure value for a desired reproducing” as recited in independent claim 37 of the present invention.

In view of the above remarks with respect to independent claim 37, it is respectfully submitted that independent claim 37 is not made unpatentable by Horiuchi and Yamagami when taken alone or in combination. As claim 38 is dependent on claim 37, it is respectfully submitted that, in addition to the above remarks, the claim is also patentable for the same reasons discussed above with respect to independent claim 37. It is thus further respectfully submitted that this rejection should be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a) – Horiuchi, Yamagami, McCarthy

Claims 43 and 44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Horiuchi in view of Yamagami and in further view of McCarthy. This rejection is respectfully traversed.

It is noted that claims 43 and 44 depend from independent claim 37 directly or indirectly, and it is demonstrated above that claim 37 is distinguishable over Horiuchi and Yamagami.

McCarthy does not remedy at least the above noted deficiencies of Horiuchi and Yamagami. McCarthy merely describes storing information of the color adjustment function which converts the extended color gamut digital images to produce limited color gamut digital images. Thus, similarly to Horiuchi and Yamagami, McCarthy neither teaches nor suggests “wherein the imaging device having a wide luminance range imaging mode images the subject with an exposure value that is lower than a normal exposure value for a desired reproducing” as in the present invention.

In view of the above remarks with respect to independent claim 37, it is respectfully submitted that independent claim 37 is not made unpatentable by Horiuchi, Yamagami, and McCarthy when taken alone or in combination. As claims 43 and 44 are dependent on independent claim 37, it is respectfully submitted that, in addition to the above remarks, these claims are also patentable for the same reasons discussed above with respect to independent claim 37. It is thus further respectfully submitted that this rejection should be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a) – Horiuchi, McCarthy

Claims 50-55 and 58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Horiuchi in view of McCarthy. This rejection is respectfully traversed.

Horiuchi describes an image pick-up device for producing a synthesized image signal having a wide dynamic range by partially combining or exchanging a plurality of images picked-up with different exposure amounts in a mosaic fashion. A synthetic unsuitable portion is detected on the basis of a comparison of a plurality of image signals picked-up with different exposure amounts. The pixel signal of the detected synthetic unsuitable portion is corrected. However, Horiuchi does not teach or suggest “wherein in at least one of the first luminance mode and the second luminance mode, the imaging device images the subject with an exposure value that is lower than a normal exposure value for a desired reproducing” as recited in independent claim 50 of the present invention.

Furthermore, nowhere in Horiuchi is there mention or suggestion of providing a recording device configured to record the converted image data in a storage area and configured to record the luminance mode of the raw image data in the storage area separately from the converted image data as in the present invention. The present invention provides an imaging device configured to image a subject in one of luminance modes to generate raw image data. A processing device generates converted image data by processing the raw image data based on the luminance mode of the raw image data. A recording device records the converted image data and the luminance mode of the raw image data in the storage area separately from the converted image data. In contrast, Horiuchi merely describes a system for producing a synthesized image signal having a wide dynamic range. Thus, Horiuchi neither teaches nor suggests “a recording device configured to record the converted image data in a storage area and configured to record the luminance mode of the raw image data in the storage area separately from the converted image data” as recited in independent claim 50 of the present invention.

McCarthy describes storing information of the color adjustment function which converts the extended color gamut digital images to produce limited color gamut digital images. However, similarly to Horiuchi, McCarthy neither teaches nor suggests “wherein in at least one of the first luminance mode and the second luminance mode, the imaging device images the subject with an exposure value that is lower than a normal exposure value for a desired reproducing” as recited in independent claim 50 of the present invention.

Also, McCarthy assumes the image to be processed is an extended color gamut digital image. The information describing the color adjustment function used for converting the extended color gamut digital image to fit within the limited color gamut is stored. However, this is not recording the luminance mode of the raw image data in the storage area separately from the converted image data. Based on the information, the present invention seeks to determine whether or not the image data has been recorded with the wide dynamic range. The image is processed according to the determination result. McCarthy is not concerned with providing such

features. Thus, similarly to Horiuchi, McCarthy neither teaches nor suggests “a recording device configured to record the converted image data in a storage area and configured to record the luminance mode of the raw image data in the storage area separately from the converted image data” as recited in independent claim 50 of the present invention.

In view of the above remarks with respect to independent claim 50, it is respectfully submitted that independent claim 50 is not made unpatentable by Horiuchi and McCarthy when taken alone or in combination. As claims 51-55 and 58 are dependent on independent claim 50, it is respectfully submitted that, in addition to the above remarks, these claims are also patentable for the same reasons discussed above with respect to independent claim 50. It is thus further respectfully submitted that this rejection should be reconsidered and withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a) – Horiuchi, McCarthy, Kim

Claims 56 and 57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Horiuchi in view of McCarthy and further in view of Kim. This rejection is respectfully traversed.

It is noted that claims 56 and 57 depend from independent claim 50 directly or indirectly, and it is demonstrated above that claim 50 is distinguishable over Horiuchi and McCarthy. Kim does not remedy at least the above noted deficiencies of Horiuchi and McCarthy. Kim describes an apparatus for gamma-correcting image data. A characteristic corrector inputs image data values and outputs gamma-corrected image data values corresponding to the image data values according to stored gamma correction information. However, similarly to Horiuchi and McCarthy, Kim does not teach nor suggest “wherein in at least one of the first luminance mode and the second luminance mode, the imaging device images the subject with an exposure value that is lower than a normal exposure value for a desired reproducing” and “a recording device configured to record the converted image data in a storage area and configured to record the

luminance mode of the raw image data in the storage area separately from the converted image data” as recited in the present invention.

In view of the above remarks with respect to independent claim 50, it is respectfully submitted that independent claim 50 is not made unpatentable by Horiuchi, McCarthy, and Kim when taken alone or in combination. As claims 56 and 57 are dependent on independent claim 50, it is respectfully submitted that, in addition to the above remarks, these claims are also patentable for the same reasons discussed above with respect to independent claim 50. It is thus further respectfully submitted that this rejection should be reconsidered and withdrawn.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Michael R. Cammarata, Reg. No. 39,491 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By 

Michael R. Cammarata
Registration No.: 39,491
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant